Planetary Health Report Card (Medicine):

Peninsula Medical School

2024-2025 Contributing Team:

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Summary of Findings

Overall Grade	B

Curriculum	B

The Peninsula Medical School integrates planetary health topics into its curriculum, offering elective modules and workshops that address sustainability and climate change in healthcare. Key areas covered include:

- The impact of climate change on health and disease patterns.
- The environmental consequences of healthcare practices.
- Sustainable healthcare strategies and planetary health advocacy.
- Environmental determinants of health, including pollution and air quality.

Interdisciplinary Research	B+

The institution supports research in planetary health through initiatives like the **Global Health Research Team**, which works on projects such as:

- The **KUPUMA project**, focusing on chronic lung disease and air pollution in East Africa.
- The **Midwife Project in Uganda**, aimed at reducing biomass smoke exposure.

Despite active research involvement, there is a need for a dedicated interdisciplinary planetary health research center.

Community Outreach and Advocacy	C

Peninsula Medical School collaborates with community organizations and healthcare providers to promote planetary health, including:

- **Livewell Southwest**, which integrates sustainability in health and social care services.
- **Keyham Green Places**, fostering green spaces for public well-being.
- Participation in food security projects addressing sustainable food access.

However, institutional-led community education efforts on planetary health remain limited.

Support for Student-Led Initiatives	B-

The school provides support for student-led sustainability and planetary health initiatives, including:

- Funding opportunities for projects related to sustainability.
- Faculty mentorship for student advocacy efforts.
- Opportunities to participate in planetary health-focused elective modules and quality improvement (QI)

projects.

Further efforts are required to streamline funding and provide structured mentorship for student projects.

Campus Sustainability	**B+**

The university has implemented sustainability initiatives such as:

- **Carbon footprint reduction strategies**, achieving significant emission cuts.
- **Sustainable lab practices**, including a **Laboratory Efficiency Assessment Framework**.
- Partial divestment from fossil fuels, with continued improvements needed.
- There are also ambitious plans to further reduce carbon footprint, food and water waste and source alternative fuel sources.

Statement of Purpose

Planetary health is human health.

The Planetary Health Alliance describes planetary health as "a solutions-oriented, transdisciplinary field and social movement focused on analysing and addressing the impacts of human disruptions to Earth's natural systems on human health and all life on Earth." This definition is intentionally broad, intended to encompass the multitude of ways that the environment can affect health, including water scarcity, changing food systems, urbanisation, biodiversity shifts, natural disasters, climate change, changing land use and land cover, global pollution, and changing biogeochemical flows. The health of humanity is dependent on our environment, and our environment is changing rapidly and in disastrous ways. Although the World Health Organization has called climate change "the greatest threat to global health in the 21st century," many health professional schools institutional priorities do not reflect the urgency of this danger to human health.

As future health professionals, we must be prepared to address the impacts of human-caused environmental changes on our patients' health. This preparation is in the hands of the institutions providing our health professional's training. It is imperative that we hold our institutions accountable for educating health professional about the health impacts of climate change and other anthropogenic environmental changes, generating research to better understand health impacts and solutions, supporting related student initiatives, embracing sustainable practices as much as possible, and engaging with surrounding communities that are most affected by environmental threats. Because climate change and environmental threats disproportionately affect vulnerable populations (for example, communities of colour, older adults sensitive to health threats, and individuals in low-resource settings), these issues are inherently ones of equity and justice.

With the purpose of increasing planetary health awareness and accountability among health professional schools, we have created a Planetary Health Report Card that students internationally can use to grade and compare their institutions on an annual basis. This student-driven initiative aims to compare health professional schools nationally and internationally on the basis of discrete metrics in five main category areas: 1) planetary health curriculum, 2) interdisciplinary research in health and environment, 3) university support for student planetary health initiatives, and 4) community outreach centred on environmental health impacts and 5) school campus sustainability. The Planetary Health Alliance describes planetary health as "a solutions-oriented, transdisciplinary field and social movement focused on analysing and addressing the impacts of human disruptions to Earth's natural systems on human health and all life on Earth." This definition is intentionally broad, intended to encompass the multitude of ways that the environment can affect health, including water scarcity, changing food systems, urbanisation, biodiversity shifts, natural disasters, climate change, changing land use and land cover, global pollution, and changing biogeochemical flows. The health of humanity is dependent on our environment, and our environment is changing rapidly and in disastrous ways. Although the World Health Organization has called climate change "the greatest threat to global health in the 21st century," many health professional schools institutional priorities do not reflect the urgency of this danger to human health.

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environmental changes, generating research to better understand health impacts and solutions, supporting related student initiatives, embracing sustainable practices as much as possible, and engaging with surrounding communities that are most affected by environmental threats. Because climate change and environmental threats disproportionately affect vulnerable populations (for example, communities of colour, older adults sensitive to health threats, and individuals in low-resource settings), these issues are inherently ones of equity and justice.

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Definitions & Other Considerations

Definitions:

- **Planetary Health:** is described by the Planetary Health Alliance as "the health of human civilisation and the state of the natural systems on which it depends." For example, topics such as climate change, declining biodiversity, shortages of arable land and freshwater, and pollution would all fall under the realm of planetary health. Both planetary health and traditional 'environmental health' examine the relationship between human health and the external environment, including extreme temperatures, chemicals, vector-borne diseases, etc. Planetary health explicitly concerns itself with the potential health harms associated with human-caused perturbations of natural systems. Therefore, the human health focus of planetary health makes the field well-adapted for the context of health professional's education. Throughout this report card, we use the term planetary health to refer to this broad swath of topics, but resources do not need to explicitly include the term "planetary health" to satisfy the metric.

- **Sustainable Healthcare:** As defined by the Academy of Royal Colleges, sustainable healthcare involves ensuring the ability to provide good quality care for future generations by balancing the economic, environmental, and social constraints and demands within health care settings. A sustainable healthcare system maintains population health, reduces disease burden and minimises use of healthcare services.

- **Education for Sustainable Healthcare (ESH):** is defined as the process of equipping current and future health professionals with the knowledge, attitudes, skills and capacity to provide environmentally sustainable services through health professional education, thus working to decrease the enormous environmental impact of the healthcare industry. Planetary Health Education is an integral part of this education rather than an end in itself. This is because knowledge on Planetary Health is required to be able to fully understand the necessity of sustainable healthcare as well as being part of the broader knowledge needed to fully protect and promote health. In summary, ESH is covered by the three Priority Learning Outcomes of the Centre of Sustainable Healthcare below, and Planetary Health Education is embraced in the first learning objective and is a fundamental requirement to achieve learning outcomes 2 and 3:

    1. Describe how the environment and human health interact at different levels.
    2. Demonstrate the knowledge and skills needed to improve the environmental sustainability of health systems.
    3. Discuss how the duty of a doctor to protect and promote health is shaped by the dependence of human health on the local and global environment.

- **Medical School/Department vs. Institution:** When "Medical school" is specified in the report card, this only refers to curriculum and resources offered by the School/department of Medicine and does not include offerings from other parts of the university (e.g. undergraduate departments (USA), other related departments (e.g. Public Health, Population Health departments). In contrast, when "institution" is specified in the report card, we are referring to the university more broadly including all of its campuses. Any resource reasonably accessible by medical students, no matter where in the institution the resource comes from or if it is

specifically targeted for medical students, can meet this metric.

- **Environmental history (Metric #19 in Curriculum Section):** This is a series of questions students are taught to ask during medical encounters that elicits patients' exposures and environmental risk factors. Historically, this has included consideration of exposures like pesticides, asbestos, and lead, though in the modern era shaped by climate change, it can be expanded to include things like wildfire smoke exposure, air pollution and mould after flooding. Key components include place of residence over the lifecourse, occupational history, food and water sources (e.g. meat from industrial feeding operations, regular fishing in contaminated water, access to clean drinking water), and exposure to air pollution. Please be as specific as possible when providing evidence for this metric.

- **Elective:** The word "elective" refers to an optional course or lecture series that a student can opt to take part in but is not a requirement in the core curriculum. Generally, these elective courses take place in the preclinical curriculum but vary by school.

- **Core Curriculum:** This refers to taught material that is delivered to the entire cohort of students in one year.

- **Clerkship / Outreach:** This is a term used in the USA to refer to placements that medical students go on e.g. Pediatrics, General medicine, Psychiatry. In the UK these are referred to as rotations, outreach or placements. This is a relatively short (approximately 4-8 weeks) period of study and patient-centred clinical experience that takes place as part of the undergraduate programme.

- **Clinical rotation:** This is a term used to refer to placements that students go on (e.g., ophthalmology, surgery, cardiology).

- **Physiotherapy vs Physical Therapy:** For the purposes of this report card these terms are considered interchangeable. However, physiotherapy will be used primarily.

- **Community organisations:** For most institutions, there are existing groups that are not directly affiliated with the university and exist as a product of what the community the institution exists in cares about or needs. These specific community organisations relevant to this report include those that are focused around some aspect of climate and health preservation. These community organisations can include but are not limited to local mutual aid initiatives, underserved-resource distribution groups, clean-up and nature conservation groups, community gardeners, and other environmental-related organisations. If your institution does not have access to local volunteerships with community groups, please report any community organisations your institution or school has collaborated with.

- **Climate justice:** The idea that certain population groups and geographical locations which are disproportionately more impacted by climate change are already economically and socially disadvantaged. This double vulnerability sits alongside pre-existing social justice concerns and should therefore shift policy and practice to mitigate the inequitable effects of the climate crisis.

- **Extractivisim:** The removal of natural resources typically in large quantities. Within anthropology this term is often used in the context of colonialism to refer to

the historic seizing of natural resources, a practice which has developed business models tied to ecological degradation and loss of biodiversity.

- **Global South:** Nations that often have less economic and industrial development and are typically in the southern hemisphere. These nations have been found to be disproportionately impacted by the climate crisis.

- **Low socioeconomic status (SES):** An individual or geographical area that across a variety of socioeconomic factors (e.g., income, education, race/ethnicity) is considered vulnerable. This vulnerability has been correlated to more adverse health outcomes often as a consequence of encountering more barriers in accessing and receiving healthcare.

- **Low and Middle-Income Countries (LMIC):** Countries that have lower degrees of economic affluence.

- **Anthropogenic:** Created through human activity

- **Marginalized communities:** Groups excluded from mainstream economic, educational, social, and/or cultural experiences due to race, gender identity, sexual orientation, age, physical ability, language, and/or immigration status (Sevelius et al., 2020).

Other considerations:

- If there are more than one "tracks" at your institution with two different curricula (for example, Harvard Medical School has a Pathways and HST curriculum track), you can choose to fill out a report card for each track, or fill out just one report card and average the scores received by each track in cases where the scores are different (see the 2021 Harvard or Oxford report cards as examples). Where possible please indicate the proportion of students that are on each track.

Completed in 2022 a Literature Review by Metric is available for the 2022 medicine report card metrics. We are in the process of updating this review and making it more applicable to all the disciplines. However the review serves as a rough collection of references for further learning and a resource for those advocating for increased planetary health engagement at their institutions.

Planetary Health Curriculum

Section Overview: This section evaluates the integration of relevant planetary health topics into the medical school curriculum. Today's medical students will be on the frontlines of tackling the health effects of climate and other environmental changes. Therefore, it is critical that medical students are trained to understand the health effects of these changes, as well as planetary health issues and principles more broadly. Topics like the changing geography of vector-borne diseases, the health consequences of air pollution, environmental health inequities, and disaster response principles must be part of every medical school's core curriculum.

Curriculum: General

1.1. Did your medical school offer elective courses (student selected modules) to engage students in Education for Sustainable Healthcare or Planetary Health in the last year?	
Yes, the medical school has offered **more than one** elective whose primary focus is ESH/planetary health in the past year. (3 points)	
Yes, the medical school has offered **one** elective whose primary focus is ESH/planetary health in the past year. (2 points)	
The medical school does **not** have any electives whose primary focus is ESH/planetary health, but there are one or more electives that include a **lecture** on planetary health. (1 points)	
No, the medical school has **not** offered any electives on planetary health or electives that include ESH/planetary health topics in the past year. (0 points)	
Score Assigned:	3

Year 1 Student Selected Unit (SSU) Topic - Conflict and Migration
- Students are offered an option to write a BMJ style Opinion Article and create a podcast on cross-cutting themes

Year 2 Doctor as Educator (DAE) Optional Topic - Sustainability in healthcare
- How can medical students contribute to sustainability and reducing their environmental impact while delivering exceptional care

Year 3 Creative Approaches to Advocacy for Wellbeing (CAW) - Addressing the impact of climate change on health environments and medical practice
- Exploring the impact of climate change on the various aspects of health and wellbeing, including changing environments, cultures and medical practices

Year 4 Quality Improvement (QI) Optional Topic - Green Practice. Creating a more sustainable world in General Practice
- Focusing on rural General Practice, develop aspects of working to reduce carbon footprint; reduce waste; as well as creating more energy via solar panels/wind turbine

Year 4 Quality Improvement (QI) Optional Topic - How should general practice respond to the climate emergency?
- Make a change in General Practice to improve carbon footprint

Multiple options were available.

Curriculum: Health Effects of Climate Change

1.2. Does your <u>medical school</u> curriculum address the relationship between extreme heat, health risks, and climate change?	
This topic was explored **in depth** by the **core** curriculum. (3 points)	
This topic was **briefly** covered in the **core** curriculum. (2 points)	
This topic was covered in **elective** coursework. (1 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	2
Year 2 Child Health - A Global Perspective Plenary ● Discussing how living environments can have an impact on health and wellbeing using a case study to illustrate these impacts Year 2 Public Health: Child Health Across the World ● Describes the major causes of infant and child mortality globally Year 5 Supporting Academic Programme (SAP) - Health Service Planning and Evaluation ● Climate change warming effect in relation to crop failure and starvation, mental health, displacement, changing patterns of vector borne disease Multiple sessions involving discussion about health risks and climate change, however, extreme heat only briefly mentioned	

1.3. Does your <u>medical school</u> curriculum address the impacts of extreme weather events on individual health and/or on healthcare systems?	
This topic was explored **in depth** by the **core** curriculum. (3 points)	
This topic was **briefly** covered in the **core** curriculum. (2 points)	
This topic was covered in **elective** coursework. (1 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	3
Year 3 Workshop, Global Health: Providing Healthcare for Global Populations ● Threats to Global health including pandemics and consequences of climate change and environmental degradation ● Climate change in small island developing states Year 4 Elective Plenary Part 2 - Risk Assessment ● Identifying the hazards of climate change and natural disasters when planning an elective Sessions provided go into deep discussions surrounding extreme weather events on individual health/healthcare systems	

1.4. Does your medical school curriculum address the impact of climate change on the changing patterns of infectious diseases?	
This topic was explored **in depth** by the **core** curriculum. (3 points)	
This topic was **briefly** covered in the **core** curriculum. (2 points)	
This topic was covered in **elective** coursework. (1 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	2
Year 3 Plenary - Locally Global: a population view of medicine ● Plenaries providing an overview of key health issues locally and globally, with a link to climate change and infectious diseases Year 4 Workshop - No Man is an Island: The Challenge of Infectious Disease ● How infectious disease can be fueled by climate change via mass movement of people and factors associated with that movement Year 5 Supporting Academic Programme (SAP) - Health Service Planning and Evaluation ● Climate change warming effect in relation to crop failure and starvation, mental health, displacement, changing patterns of vector borne disease Discussed in depth for the above sessions	

1.5. Does your medical school curriculum address the respiratory health effects of climate change and air pollution?	
This topic was explored **in depth** by the **core** curriculum. (3 points)	
This topic was **briefly** covered in the **core** curriculum. (2 points)	
This topic was covered in **elective** coursework. (1 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	3
Year 2 Clinical Leadership Extension Weeks (CLEWs), Workshop: The Climate, Sustainable Health and QI, including an asthma case study ● Considering how climate affects health, how health care affects the climate and the factors underpinning this ● Discussing responsibilities as medical students and future doctors to protect and promote health, and as a part of this, address climate-related factors ● Developing knowledge and skills to improve the quality and environmental sustainability of health care, using asthma care as an example Workshop with a case study specific to respiratory health and the climate	

1.6. Does your medical school curriculum address the cardiovascular health effects of climate change, including increased heat	
This topic was explored **in depth** by the **core** curriculum. (3 points)	
This topic was **briefly** covered in the **core** curriculum. (2 points)	
This topic was covered in **elective** coursework. (1 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	1

During placement years (3-5) students may discuss climate change and its effects on cardiovascular disease on cardiology placements however these discussions are very much student led and the supervising consultant may choose to guide discussions to other topics.

In year 3 there is a plenary describing an overview of health issues locally and globally. There is some relation between impact of climate change and cardiovascular disease burden, mainly through food security issues however this is minimal and there are no specific learning outcomes.

The following are based on student choice:

- In year 1 there is an SSU topic "Extreme Environment Physiology and Medicine" which covers the effects of extreme environments including nutrition, hydration and temperature. The physiological mechanisms are also covered.
- In Year 4 another SSU offers the opportunity to explore the impact of climate change on various aspects of health and wellbeing.
- During students' elective placements, they may choose to undertake a project to discuss planetary health changes on cardiovascular disease to meet the domain "Global Health."

1.7. Does your medical school curriculum address the mental health and neuropsychological effects of environmental degradation and climate change?	
This topic was explored **in depth** by the **core** curriculum. (3 points)	
This topic was **briefly** covered in the **core** curriculum. (2 points)	
This topic was covered in **elective** coursework. (1 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	2

In year 3 there is a plenary describing an overview of health issues locally and globally. There is mention of mental health and climate anxiety though only briefly discussed.

In year 1 there is an SSU topic "Extreme Environment Physiology and Medicine" which covers the effects of extreme environments including nutrition, hydration and temperature. The physiological mechanisms are also covered.

In Year 4 another SSU offers the opportunity to explore the impact of climate change on various aspects of health and wellbeing. During students' elective placements, they may choose to undertake a project to discuss planetary health changes on neuropsychological effects to meet the domains "Global Health" and "Cultural aspects of health."

1.8. Does your <u>medical school</u> curriculum address the relationships between health, individual patient food and water security, ecosystem health, and climate change?	
This topic was explored **in depth** by the **core** curriculum. (3 points)	
This topic was **briefly** covered in the **core** curriculum. (2 points)	
This topic was covered in **elective** coursework. (1 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	2
In year 3 there is a plenary (also referred to as a lecture) describing an overview of health issues locally and globally. This discusses food security, costs of healthier foods and malnutrition. It also discusses problems with water security such as dry environments and flooding.	

1.9. Does your <u>medical school</u> curriculum address the outsized impact of climate change on marginalised populations such as those with low SES, women, communities of colour, Indigenous communities, children, homeless populations, and older adults?	
This topic was explored **in depth** by the **core** curriculum. (3 points)	
This topic was **briefly** covered in the **core** curriculum. (2 points)	
This topic was covered in **elective** coursework. (1 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	2
The year 3 SSU module handbook describes students must be able to apply aspects of epidemiology to health and sustainable healthcare. They must be able to describe the health of a population using epidemiological techniques whilst evaluating the environmental, social, behavioural and cultural factors in different populations. In year 3 there is a plenary describing an overview of health issues locally and globally. There is discussion about the homeless population and those with low socio-economic backgrounds. Year 4 "Population Health: No Man is an Island" workshop discusses communicable diseases and emergence of new diseases. It describes the effect of climate change on the emergence of new diseases.	

1.10. Does your <u>medical school</u> curriculum address the unequal regional health impacts of climate change globally?	
This topic was explored **in depth** by the **core** curriculum. (3 points)	
This topic was **briefly** covered in the **core** curriculum. (2 points)	
This topic was covered in **elective** coursework. (1 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	2
Year 3 plenary "Locally Global: a population view of medicine" discusses regional health impacts of climate change globally. Learning outcomes include: ● Provide an overview of key health issues locally and globally ● Describe common factors influencing health at home and abroad ● Articulate a Population Health approach to local and global problems ● Climate change: new threats and challenges During elective placements students may opt to discuss impacts of climate change in their chosen destination.	

Curriculum: Environmental Health & the Effects of Anthropogenic Toxins on Human Health

1.11. Does your <u>medical school</u> curriculum address the reproductive health effects of industry-related environmental toxins (e.g. air pollution, pesticides)?	
This topic was explored **in depth** by the **core** curriculum. (3 points)	
This topic was **briefly** covered in the **core** curriculum. (2 points)	
This topic was covered in **elective** coursework. (1 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	0
No learning outcomes on this topic	

1.12. Does your <u>medical school</u> curriculum address important human-caused environmental threats that are relevant to the university's surrounding community?
This topic was explored **in depth** by the **core** curriculum. (3 points)
This topic was **briefly** covered in the **core** curriculum. (2 points)

This topic was covered in **elective** coursework. (1 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	3

Year 1 CLEW 1.1
Workshop: Introduction to public health
Within the e-resources for this session, there is information on the adverse health effects of smoking and the importance of "Smoke free environments".

Year 1 Jigsaw
Public health issues and resource allocation
The relevant learning outcome here is: "Describe psychological, social, economic & environmental factors that influence an individual's health and well-being at different stages of the life cycle and consider how the NHS and other organisations can improve health at different stages in the life cycle."

Year 2 Plenary
Child Health - A global perspective.
The relevant learning outcome is: "Discuss how living environments can have an impact on health and wellbeing providing examples to illustrate these topics". The session discusses how children are disproportionately at risk from air pollution, which causes many child deaths and slows down development.

Year 2 Plenary
Health Inequalities
The plenary covers social determinants of health including the environmental impact on health. It gives examples such as air pollution, littering and contamination of water from industries. It states that a goal highlighted in the Marmot Review was that we need to "create and develop healthy and sustainable places and communities", which includes reversing or slowing down effects of air pollution and climate change.

Year 2 CLEW 2.2
Sustainability, the climate and quality improvement: an asthma case study
This workshop is a chance for students to discuss the environmental impacts that the NHS itself has. The distribution of resources, the energy needed to run infrastructure and even some of the medications themselves (eg. inhalers) all pollute our environment. The NHS is apparently responsible for 4% of greenhouse gas emission in England.

Year 4 Tutorial
Interstitial lung disease.
The relevant learning outcome is: "The environment, dusts and occupation"

1.13. To what extent does your <u>medical school</u> emphasise the importance of Indigenous knowledge and value systems as essential components of planetary health solutions?
This topic was explored **in depth** by the **core** curriculum. (3 points)

This topic was **briefly** covered in the **core** curriculum. (2 points)	
This topic was covered in **elective** coursework. (1 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	0
No learning outcomes cover this topic.	

1.14. Does your <u>medical school</u> curriculum address the outsized impact of anthropogenic environmental toxins on marginalised populations such as those with low SES, women, communities of colour, children, homeless populations, Indigenous populations, and older adults?	
This topic was explored **in depth** by the **core** curriculum. (3 points)	
This topic was **briefly** covered in the **core** curriculum. (2 points)	
This topic was covered in **elective** coursework. (1 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	2
Year 2 LSRC Preparing to travel The relevant learning outcome is: “Understand the ways in which microbes can spread between animals and humans and recognise how climate change is contributing to this”. Malaria was used as an example, as the mosquito carrying the Plasmodium parasite can now survive more easily in certain areas thanks to the increasing temperature. This problem is more prominent in certain geographical areas of the world (eg. Sub-Saharan Africa at the moment). Tropical medicine in particular is focused on diseases associated with “poverty and deprivation” and “geographically restricted disease”. Year 2 Plenary Child Health - A global perspective. The relevant learning outcome is: “Discuss how living environments can have an impact on health and wellbeing providing examples to illustrate these topics”. The session discusses how children are disproportionately at risk from air pollution, which causes many child deaths and slows down development. There is also an exploration of the diseases that children living in poverty are more likely to have poor water security because of contamination with “biological disease agents and chemical pollutants”.	

Curriculum: Sustainability

1.15. Does your <u>medical school</u> curriculum address the environmental and health co-benefits of a plant-based diet?

This topic was explored **in depth** by the **core** curriculum. (3 points)	
This topic was **briefly** covered in the **core** curriculum. (2 points)	
This topic was covered in **elective** coursework. (1 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	0
No learning outcomes cover this topic.	

1.16. Does your <u>medical school</u> curriculum address the carbon footprint of healthcare systems?	
This topic was explored **in depth** by the **core** curriculum. (3 points)	
This topic was **briefly** covered in the **core** curriculum. (2 points)	
This topic was covered in **elective** coursework. (1 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	3

Year 2: CLEW 2.2: Workshop: The Climate, Sustainable Health & QI, including an asthma case study
Learning Objectives:
● Consider how the environment affects all the social determinants of health and how the environmental impact of health care
● Start to develop knowledge and skills to improve the quality and environmental sustainability of health care, using asthma as an example
● Mentions the effect of environmental risk factors, with a focus on asthma.

Year 4: SSU Quality Improvement Topic: Green Practice.

Topics offered:

1. Creating a more sustainable world in General Practice Description: Develop aspects of working to reduce carbon footprint; reduce waste, as well as creating more energy via solar panelling / wind turbines in surgery land.
2. How to be a ‘’Greener’’ GP surgery: Identify the processes within a GP surgery that are harmful to the environment, gather background information and data, decide on a specific aim for the project, and then begin their PDSA cycles.
3. Working with patients to promote a greener NHS by switching from a metered-dose inhaler (MDI) to a Dry powder inhaler (DPI) This SSU explores metered-dose inhalers, the impact on the environment and considers how to encourage patients to switch to more environmentally friendly methods.

Year 5: Population Health and Management: Health Service Planning and Evaluation

Description: This is a workshop which includes learning outcomes such as:

- Discuss what is meant by sustainable healthcare and describe its links with climate change and planetary health
- Describe UK and NHS initiatives to move toward sustainable healthcare
- Discuss the purpose of planning and evaluation and apply to the move to sustainable healthcare
- Apply principles of sustainable healthcare to different clinical environments

1.17. Does your <u>medical school</u> curriculum cover these components of sustainable clinical practice in the <u>core</u> curriculum? (points for each)	**Score**
The health **and** environmental **co-benefits** of **avoiding** over-medicalisation, over-investigation and/or over-treatment (2 points)	2
The environmental impact of **pharmaceuticals** and over-prescribing as a cause of climate health harm. Alternatively teaching on **deprescribing** where possible and its environmental and health co-benefits would fulfil this metric. (2 points) .	2
The health **and** environmental **co-benefits** of **non-pharmaceutical management** of conditions where appropriate such as exercise or yoga classes for type 2 diabetes; social group activities such as gardening for mental health conditions; active transport such as bicycle schemes. This is commonly known as social prescribing in the UK. (1 point)	1
Environmental impact of **surgical** healthcare on planetary health and the climate crisis, and how can it be mitigated. (1 point)	0
The impact of **anaesthetic** gases on the healthcare carbon footprint and ways to reduce anaestheisa's environmental impacts, such as total intravenous anaesthesia or choosing less environmentally harmful anaesthetic gas options with reduced greenhouse gas emissions. (1 point)	0
The impact of **inhalers** on the healthcare carbon footprint and the environmental benefit of dry powdered inhalers over metered dose inhalers. (1 point)	1
Waste production within healthcare **clinics** and strategies for reducing waste in clinical activities (e.g. single use items in the inpatient or outpatient setting) (1 point)	1

1: The health **and** environmental **co-benefits** of **avoiding** over-medicalisation:
- Year 4: Small groups topic: LO Discuss what is meant by medicalisation and debate its benefits and dangers

2: The environmental impact of pharmaceuticals and overprescribing:
- Year 3: Foundation Week 1: Locally Global: a population view of medicine: Presentation includes overprescribing and polypharmacy

3: The health and environmental co-benefits of non-pharmaceutical management

6. The impact of inhalers on the healthcare carbon footprint
   - Clew (which stands for Clinical Leadership Extension Weeks, where students have structured sessions to integrate broader healthcare topics) 2.2: Workshop: Sustainable Health & QI; Sustainability in Quality Improvement: an asthma case study: Presentation explains the importance of quality improvement for sustainable healthcare including current carbon emissions and cost to life. Gives specific cases of asthma involving carbon footprint as well as non-carbon environmental impact.
   - Topic 2: Working with patients to promote a greener NHS by switching from a metered-dose inhaler (MDI) to a Dry powder inhaler (DPI): This SSU explores metered-dose inhalers, the impact on the environment and considers how to encourage patients to switch to more environmentally friendly methods.

7. Waste production
   - Waste is mentioned in Year 4 small group session: Politics, resource management and how the NHS works". Discusses management of resources, ensuring cost effectiveness and minimising waste
   - Year 4: Quality Improvement SSU: Drug waste in the community setting. Understanding patient choices to improve the quality and outcome of care. SSU explores the impact of wasted medication in the community and discusses how to mitigate this.
   - Year 4: QI SSU: Increase sustainability and reduce plastic waste in the clinical areas. SSU focuses on ways to reduce plastic waste in clinical areas without compromising patient safety as well as reviewing proper disposal of waste

Curriculum: Clinical Applications

1.18. In training for patient encounters, does your <u>medical school's</u> curriculum introduce strategies to have conversations with patients about the health effects of climate change?	
Yes, there are strategies introduced for having conversations with patients about climate change in the **core** curriculum. (2 points)	
Yes, there are strategies introduced for having conversations with patients about climate change in **elective** coursework. (1 points)	
No, there are **not** strategies introduced for having conversations with patients about climate change. (0 points)	
Score Assigned:	0
No learning outcomes on this topic.	

1.19. In training for patient encounters, does your <u>medical school's</u> curriculum introduce strategies for taking an environmental history or exposure history?
Yes, the **core** curriculum includes strategies for taking an environmental history. (2 points)
Only **elective** coursework includes strategies for taking an environmental history. (1 point)
No, the curriculum does **not** include strategies for taking an environmental history. (0 points)

Score Assigned:	2

Year 1: Biomedical SSU: Allergies and the Environment Description: Asthma and atopic allergies are dramatically increasing. This unit will explore the basic immunological mechanisms involved and look at the environmental reasons that may be responsible for these increases

Year 2: Workshop: Sustainable Health and QI; Sustainability in Quality Improvement: an asthma case study Learning outcomes:
● Consider how the environment affects all the social determinants of health and how the environmental impact of health care
● Start to develop knowledge and skills to improve the quality and environmental sustainability of health care, using asthma as an example
● Mentions the effect of environmental risk factors, with a focus on asthma.

Year 4: Tutorial: Interstitial Lung Disease:
Relevant Learning Objective:
- Interstitial lung diseases associated with: the environment, medications, dusts, and occupation

Years 1 and 2 communication skills during clinical teaching sessions includes Calgary-Cambridge framework to take environmental and exposure history from simulated patients.

Curriculum: Administrative Support for Planetary Health

1.20. Is your <u>medical school</u> currently in the process of implementing or improving Education for Sustainable Healthcare (ESH)/planetary health education?	
Yes, the medical school is currently in the process of making **major** improvements to ESH/planetary health education. (4 points)	
Yes, the medical school is currently in the process of making **minor** improvements to ESH/planetary health education. (2 points)	
No, there are **no** improvements to planetary health education in progress. (0 points)	
Score Assigned:	2

There is a new theme lead for Population Health who came into the role this September.
The Head of School (2 years into the role), is reviewing all learning outcomes, including planetary health, and mapping them to relevant sessions and also plans to make it clear to all staff and students where population health is covered in the curriculum.

1.21. How well are the aforementioned planetary health/Education for Sustainable Healthcare topics integrated longitudinally into the <u>core</u> curriculum?
Planetary health/ESH topics are **well integrated** into the core medical school curriculum. (6 points)
Some planetary health/ESH topics are appropriately integrated into the core medical student curriculum. (4 points)

Planetary health/ESH is not integrated and is primarily addressed in **(a) standalone lecture(s).** (2 points)	
There is **minimal/no** education for sustainable healthcare. (0 points)	
Score Assigned:	6
Teaching is integrated throughout the 5-year curriculum, although a significant proportion of learning is self directed. Exposure to planetary health research in year 1 and 2 depends quite heavily on the topic chosen for their student selected component as themes including 'Healthcare' and 'Crosscutting themes' are open to interpretation. To address the key principles in pre-clinical years, students also receive some classroom based teaching. This includes Case Unit 5 in year 1 called 'Treating the population' which explores health disparities in the local area and year 2 receives interactive sessions such as 'Public Health: Child Health Across the World'. Further references can be found in section 1.12 of this report. Students across years 3 to 5 have fewer lectures, thus planetary health teaching is less frequent. Infectious diseases are a key part of the year 3 and 4 planetary health curriculum. However, providers for this teaching can change. Last year the lecturer presenting 'Diseases caused by mosquitoes, flies and ticks' was a GP with limited global health experience. Students in year 5 undertake an elective and four 'Population Health & Management' workshops throughout the year. Additional resources are available on the DLE throughout the course under programme information > curriculum > population health, however, this is not considered the core curriculum. Therefore, although consistency in the quality of teaching is not guaranteed, planetary health topics are addressed throughout the course to a considerable extent.	

1.22. Does your medical school employ a member of faculty to specifically oversee and take responsibility for the incorporation of planetary health and sustainable healthcare as a theme throughout the course?	
Yes, the **medical school** has a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare. (1 point)	
No, the **medical school** does **not** have a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare. (0 points)	
Score Assigned:	1
Score explanation: **[Laura Bowater]** **[laura.bowater@plymouth.ac.uk]**	

Section Total (48 out of 72)	**67%**

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Interdisciplinary Research

Section Overview: This section evaluates the quality and quantity of interdisciplinary planetary health research at the broader institution. Interactions between health and the environment are complex and multifactorial. While climate change has been extensively studied from an environmental science perspective, planetary health is an emerging field. As leading health institutions with talented researchers and research resources, institutions should fund research studying the health effects of climate change and anthropogenic environmental toxins. This obligation is particularly strong because the public and policymakers are more attentive to climate change when its implications for human health are emphasised.

2.1. Are there researchers engaged in planetary health research and healthcare sustainability research at your institution?	
Yes, there are faculty members at the **institution** who have a **primary** research focus in planetary health **or** sustainable healthcare/vetcare. (3 points)	
Yes, there are individual faculty members at the **institution** who are conducting research **related** to planetary health or healthcare sustainability, OR are part of a national/international sustainability working group, but it is not their primary research focus. (2 points)	
There are sustainability researchers at the **institution**, but not specifically associated with healthcare/vetcare. (1 point)	
No, there are **no** planetary health and/or sustainability researchers at the **institution** at this time. (0 points)	
Score Assigned:	2

The Global Health Research Team is formed within the Faculty of Health. The following researchers oversee ongoing projects associated with planetary health:

- Honorary Associate Professor Dr Rupert Jones (The KUPUMA project)
- Senior Research Fellow PenARC Dr Lynne Callaghan
- Research Assistant Mrs Lucy Cartwright
- Honorary University Fellow Ms Debra Westlake

The KUPUMA project is a partnership project between the University of Plymouth and Makerere University in Uganda. Acknowledging that one of the main causes of Chronic Lung Disease (CLD) is air pollution, this project's aims included combating chronic lung disease in East Africa through spreading awareness about smoke exposure and the use of cleaner fuels.

The Midwife Project in Uganda is an educational programme which aims to teach midwives and other community healthcare workers about the dangers of biomass smoke and about reducing the risks to mother, foetus and young children.

2.2. Is there a dedicated department or institute for interdisciplinary planetary health research at your institution?

There is **at least one** dedicated department or institute for interdisciplinary planetary health research. (3 points)
There is **not currently** a department or institute for interdisciplinary planetary health research, but there are **plans** to open one in the next 3 years. (2 points)
There is an **Occupational and Environmental Health department**, but no interdisciplinary department or institute for planetary health research. (1 points)
There is **no** dedicated department or institute. (0 points)

Score Assigned:	3

The Global Health Collaborative is a forum for overseas health education, research and sustainability. Established in 2016, it facilitates collaboration between individuals and organisations with a particular interest in global health. This includes working alongside primary researchers, healthcare professionals, university lecturers and NHS staff to build knowledge whilst advancing and promoting sustainable healthcare practices.

The Sustainable Earth Institute brings researchers together with businesses and community groups to develop research and innovative approaches to overcome global challenges. The organisation links research areas across the campus from science and engineering to arts, humanities and business.

2.3. Is there a process by which communities disproportionately impacted by climate change and environmental injustice give input or make decisions about the research agenda at your <u>institution</u>?
Yes, there is a process in which community members impacted by climate and environmental injustice have **decision-making power** in the climate + environmental research agenda. (3 points)
Yes, there is a process in which community members impacted by climate and environmental injustice **advise** the climate + environmental research agenda. (2 points)
No, but there are **current efforts** to establish a process for community members to advise or make decisions on the research agenda. (1 points)
There is **no** process, and **no** efforts to create such a process. (0 points)

Score Assigned:	2

The KUPUMUA project is run by Dr Rupert Jones in association with Makerere University in Uganda. The organisation conducts qualitative research with experts, clinicians and community members using interviews and focus groups. Dr Jones shared his insight:

“For one project, around 50 people from community members to the Ministry of Health were interviewed to understand how to tailor our messages to be culturally appropriate and to fit within the existing health systems. Our research continues in PDSA (Plan-Do-Study-Act) cycles. You identify a problem, you work on a solution, you test the solution, you adapt it, you apply it, you re-evaluate and amend”.

The Global Challenges Research Fund is a £1.5bn fund which aims to increase innovation and opportunities in lower income countries. The organisation focuses on objectives identified within the United Nations Sustainable Development framework. The University of Plymouth works in partnership with GCRF to conduct research funded by the organisation.

2.4. Does your institution have a planetary health website that centralises ongoing and past research related to health and the environment?	
There is an **easy-to-use, adequately comprehensive** website that **centralises** various campus resources related to health and the environment including all of the following: upcoming events, leaders in planetary health at your institution, and relevant funding opportunities. (3 points)	
There is a website that **attempts to centralise** various campus resources related to health and the environment, but it is hard-to-use, not updated, or not adequately comprehensive. (2 points)	
The **institution** has an **Office of Sustainability website** that includes **some** resources related to health and the environment. (1 point)	
There is **no** website. (0 points)	
Score Assigned:	3

Score explanation: Insert explanation here.

- The University of Plymouth has a central page detailing the improvements they are making as an institution to reach net zero, as well as recent research, ways to get involved, key members of staff, recent news and upcoming events. https://www.plymouth.ac.uk/students-and-family/sustainability
- There is also a page on the University of Plymouth website titled the Global Health Collaborative, which outlines projects and partnerships relating to both human health and planetary health. https://www.plymouth.ac.uk/research/global-health-collaborative
- There is a page on Plymouth Medical Schools online digital learning environment detailing planetary health and population health principles and information. It lists recommended research papers and has useful links to resources. https://dle.plymouth.ac.uk/mod/book/view.php?id=1212678

2.5. Has your institution recently hosted a conference or symposium on topics related to planetary health?
Yes, the **institution** has hosted at least one conference or symposium on topics related to planetary health in the past year. (4 points)
Yes, the **institution** has hosted at least one conference or symposium on topics related to sustainable healthcare/vetcare in the past year. (3 points)

Yes, the **institution** has hosted a conference on topics related to planetary health / sustianable healthcare/vetcare in the past three years. (2 points)
The **institution** has not hosted any conferences directly, but they have provided financial support for a local planetary health event. (1 point)
No, the **institution** has not hosted a conference on topics related to planetary health in the past three years. (0 points)

Score Assigned:	2

Score explanation: Insert explanation here.

- The University of Plymouth hosted a Day long free online conference/event on the 19th of June 2024 Via the Net-Zero Exchange's online SpotMe platform. https://www.plymouth.ac.uk/research/institutes/sustainable-earth/sustainable-earth-2024
    - The event brought together researchers, businesses, NGOs, Community Groups, Healthcare and individuals to hear inspirational speakers outline the need to tackle global and local challenges around climate change.

- In 2023 Plymouth University hosted the UK's first national coastal research conference which discussed themes relating to the challenges facing coastal communities as a result of the changing climate. https://www.plymouth.ac.uk/about-us/annual-review/engaging-events

2.6. Is your <u>institution</u> a member of a national or international planetary health or ESH/ESV organisation?
Yes, the institution is a member of a national or international planetary health **or** ESH/ESV organisation. (1 points)
No, the institution is **not** a member of such an organisation. (0 points)

Score Assigned:	1

- The University of Plymouth's faculty of health and human sciences is a member of the Global consortium on climate and health education. https://cdn.zevross.com/cu/gcche/members-list-app/v1/index.html

Section Total (13 out of 17)	**76%**

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Community Outreach and Advocacy

Section Overview: This section evaluates medical school engagement in community outreach and advocacy efforts associated with planetary health. Researching and teaching planetary health is necessary but not sufficient. It is critical that institutions also directly engage with communities most affected by environmental health harms. Although climate change is a problem largely created by those with power and resources, its impacts fall disproportionately on under-resourced populations and communities of colour. Institutions should partner with local communities affected by climate change and pollution to share information about environmental health threats, advocate together for change, and provide opportunities for students to be a part of this work.

3.1. Does your institution partner with community organisations to promote planetary and health?	
Yes, the **institution** meaningfully partners with **multiple** community organisations to promote planetary and environmental health. (3 points)	
Yes, the **institution** meaningfully partners with **one** community organisation to promote planetary and environmental health. (2 points)	
The **institution** does not partner with community organisations, but has participating in community focused events relating to planetary health. (1 point)	
No, there is **no** such meaningful community partnership. (0 points)	
Score Assigned:	3
The university is part of a national project targeting disadvantaged communities left behind by the traditional UK food system. There is a project running which focuses on working with disadvantaged communities to produce new solutions to address lack of access to healthy, sustainable food. Communities will also co-create policies to prevent food loss from mainstream supply chains and identify where increased production of primary food ingredients is needed. It has also created a film to discuss food poverty which was created by the University of Plymouth and media company Fotnow CIC. The institution is partnered with Livewell Southwest which provides integrated health and social care services across Plymouth, South Hams and West Devon. Students may also have placements with this group. The university is also partnered with Well Connected, a local charity experienced in community engagement and health improvement. Year 2 students spend time working with this group to understand the needs of their population group such as people with learning disabilities, substance misuse or dementia. Another group the university works with is Keyham Green Places which focuses on nature and community spirit. It promotes green spaces and a dedicated horticultural growing area.	

3.2. Does your institution offer community-facing courses or events regarding planetary health?

The **institution** offers community-facing courses or events at least once every year. (3 points)
The **institution** offers courses or events open to the community at least once per year, but they are not primarily created for a community audience. (2 points)
The **institution** has promoted community-facing courses or events, but was not involved in planning those courses or events. (1 point)
The **institution/medical school** have not offered such community-facing courses or events. (0 points)

Score Assigned:	0

There are no community facing courses or events offered.

3.3. Does your <u>institution</u> have regular coverage of issues related to planetary health and/or sustainable healthcare in university update communications?
Yes, all students **regularly** receive communication updates dedicated to planetary health and/or sustainable healthcare. (2 points)
Yes, planetary health and/or sustainable healthcare topics are regularly included in communication updates to **some courses**. (1 point)
Students **do not** receive communications about planetary health or sustainable healthcare. (0 points)

Score Assigned:	1

The University of Plymouth internal communications and BMBS Medical appendix updates occasionally discuss sustainable healthcare. Mostly this is related to wellbeing, green spaces and sea swims.

3.4. Does the <u>institution</u> or <u>main affiliated hospital trust</u> engage in professional education activities targeting individuals post graduation with the aim of ensuring their knowledge and skills in planetary health and sustainable healthcare remain up to date during their professional career?
Yes, the **institution** or **main affiliated hospital trust** offers multiple in-person or online courses relating to planetary health and/or sustainable healthcare for post-graduate providers, including at least one with a primary focus of planetary health. (2 points)
Yes, the **institution** or **main affiliated hospital trust** offers one course relating to planetary health and/or sustainable healthcare for post-graduate provider. (1 point)
There are **no** such accessible courses for post-graduate providers. (0 points)

Score Assigned:	0

There are no courses for post-graduate providers about planetary health. Home | Postgraduate Medical Centre Plymouth

3.5. Does your institution or its affiliated teaching hospitals have accessible educational materials for patients about environmental health exposures?	
Yes, the **medical school** or **all affiliated hospitals** have accessible educational materials for patients. (2 points)	
Some affiliated hospitals have accessible educational materials for patients. (1 point)	
No affiliated medical centres have accessible educational materials for patients. (0 points)	
Score Assigned:	2
There are patient leaflets in all three sites which describe environmental health exposures. At Derriford hospital, some leaflets that include environmental exposures include; Asthma, melanoma, COPD, smoking during pregnancy and colon cancer. More information about patient leaflets at Derriford hospital can be found here. Some Torbay hospital leaflets include: Asthma, diabetes, smoking in pregnancy. These can be found here. There is also a green walks leaflet for patients whilst in hospital describing walking routes around the hospital. In Musgrove Park Hospital there is a leaflet about the effects of smoking.	

3.6. Does your institution or its affiliated teaching hospitals have accessible educational materials for patients about the health impacts of climate change?	
Yes, the **medical school** or **all affiliated hospitals** have accessible educational materials for patients. (2 points)	
Some affiliated hospitals have accessible educational materials for patients. (1 point)	
No affiliated hospitals have accessible educational materials for patients. (0 points)	
Score Assigned:	1
At Derriford hospital, there are pages dedicated to air quality and green spaces which describe their health impacts.	

Section Total (7 out of 14)	**50%**

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Support for Student-Led Planetary Health Initiatives

Section Overview: This section evaluates institutional support for student-led planetary health initiatives, such as funding, fellowships, programming, and student groups. Planetary health is a young field and, as young people facing a future deeply shaped by climate change, students are often some of the first at an institution to engage with it. Institutions should provide support for students to engage in sustainability quality improvement (QI) initiatives, discover mentors in their area of interest, and receive funding for planetary health projects.

4.1. Does your institution offer support for students interested in enacting a sustainability initiative/QI project?	
Yes, the **institution** either offers grants for students to enact sustainability initiatives/QI projects or sustainability QI projects are part of the core curriculum. (2 points)	
The **institution** encourages sustainability QI projects (to fulfil clerkship or longitudinal requirements) and offers resources to help students succeed in these projects, **but** there is no student funding available and there is no requirement to participate. (1 point)	
No, **neither** the medical school or the institution offer opportunities or support for sustainability initiatives or QI projects. (0 points)	
Score Assigned:	2
In the first two years of medical training, students choose an SSU project. There are overarching themes in which students can then decide what to focus their project on. Suggested topics include "Food Insecurity and Impact on Health Inequalities," "World health inequalities: a global or local problem," and "Global Health, Infectious Disease and trauma in resource poor settings." In year 4 students complete a QI project and have the option to focus on projects related to planetary health such as "How to be a "greener" GP Surgery" and "Increase sustainability and reduce plastic waste in the clinical areas." These projects are students' choices so they are not required to focus on planetary related topics. As they are part of the curriculum, these are not funded. The University also hosts the "Get Involved Awards" to better understand local issues. These are not always environmentally focussed. Up to 6 projects receive £6000-£8000 to their research team to fund the winning project. These awards are open to staff as well as students.	

4.2. Does your institution offer opportunities for students to do research related to planetary health and/or sustainable healthcare/vetcare?
The **institution** has a **specific** research program or fellowship for students interested in doing planetary health/sustainable healthcare/vetcare research. (2 points)

There are research opportunities for students to perform research related to planetary health/sustainable healthcare, but these **require student initiative** to seek these out and carry them out in their spare time. (1 point)	
There are **no opportunities** for students to engage in planetary health/sustainable healthcare research. (0 points)	
Score Assigned:	2

In year 4 students need to complete an elective proposal. Part of this includes creating aims for the domain Global and/or Public Health in which students can explore planetary health research in the location they have decided to visit though this is a student-led initiative.
Between years 4 and 5 students can choose to intercalate in Msc Global Health for 1 year. The global health programme is designed to develop knowledge and skills as innovators, leaders, strategists, advisors, facilitators and medics in global health.

Peninsula medical students have the opportunity to intercalate between years four and five of their training, which can include degrees such as BSc Environmental Science and MSc Expedition and Marine Medicine, which cover topics on sustainable healthcare. The MSc Expedition and Marine Medicine includes a module on Global health and Quality improvement, exploring how to tackle issues with keeping healthcare sustainable.

The 'Design and Development of Healthcare Education' module also allows students to research and design a scheme of work, whereby they are given the chance to endorse the new curriculum for sustainable healthcare, which has been added to the GMC list of supplementary guidance for UK medical schools.

There are Student Selected Components in each year, which allow students to choose projects including some on environmental research. During years 2, 3 and 4, there is the opportunity to undertake projects such as 'Doctors as Educators', 'Creative approaches to Advocacy for Wellbeing' and 'Quality Improvement' which all offer opportunities to get involved in researching planetary health. A few examples of titles offered include 'In at the Deep End' which offers learning on managing healthcare in resource poor settings. Another is 'Global Health, infectious Disease and trauma in resource poor settings', focussing on Global health research projects. 'Quality Improvement' gives project examples of single use plastics, drug waste, travel to surgery, and utilisation of green spaces.

In the learning outcomes for year one reflective groups, it covers some aspects of environmental factors influencing resource allocation, which allows students to discuss and research impacts of planetary health concerns. They also receive a lecture on planetary health, showing them where they can get involved in research.

4.3. Does the <u>institution</u> have a webpage where students can find specific information related to planetary health and/or sustainable healthcare/vetcare activities and mentors within the institution? For example, projects achieved, current initiatives underway at the medical school and/or contact of information of potential mentors.

The institution has a webpage with specific information related to planetary health or sustainable healthcare/vetcare that includes up-to-date information on relevant initiatives and contact information of potential mentors. (2 points)
There is an institution webpage that features some information on projects and mentors within planetary health and sustainable healthcare within the medical school, but it lacks key information. (1 point)
There is **no institution** specific webpage for locating planetary health and/or sustainable healthcare projects or mentors. (0 points)

Score Assigned:	2

The University of Plymouth Digital Learning Environment contains specific information about Planetary Health which all year groups can access. It contains links to the most recent Lancet Countdown report, UN Emissions Gap Report, the University's current Planetary Health Report Card as well as a concise list of resources to help students further their knowledge about Planetary Health. Examples include green impact for health and Right Breathe.

4.4. Does your institution have registered student groups dedicated towards fostering a culture of planetary health engagement, scholarship, and advocacy on campus, supported by faculty advisors?
Yes, there is a student organisation **with faculty support** at my medical school dedicated to planetary health or sustainability in healthcare. (2 points)
Yes, there is a student organisation at my medical school dedicated to planetary health or sustainability in healthcare but it **lacks faculty support.** (1 point)
No, there is **not** a student organisation at my institution dedicated to planetary health or sustainability in healthcare. (0 points)

Score Assigned:	1

Students can register to student groups via the student union to join groups involved in sustainability and climate change. There is an Environment and Sustainability Network and Gardening Society students can partake in. There is also a Wildlife and Ecological Society though this is currently for restarting and not active.
Students for Global Health Plymouth is another student run group which focuses on a variety of issues including climate change. They run a wide range of activities from online educational courses to "Tales from Global Elective" events to raise money for their chosen charity. Most recently this was 'Blue Ventures' which works for conservation and community health. The group also represents UK medical students to the International Federation of Medical Students who represent medical students worldwide to the World Health Organisation.
Another student led group is the Plymouth Environment Society which aims to promote sustainability on campus.

Organisations currently lack direct faculty support.

4.5. Is there a student liaison representing sustainability interests who serves on a department or institutional decision-making council to advocate for curriculum reform and/or sustainability best practices?	
Yes, there is a student representative that serves on a department or institutional decision-making council/committee. (1 points)	
No, there is no such student representative. (0 points)	
Score Assigned:	0
Medical students can only join other student societies on environment.There are no departmental or institution decision making councils medical students can join.	

4.6. In the past year, has the institution had one or more co-curricular planetary health programs or initiatives in the following categories? (1 point each)	**Score**
Projects where students are able to gain experience in organic agriculture and sustainable food systems, such as gardens, farms, community supported agriculture (CSA), fishery programs, or urban agriculture projects.	0
Panels, speaker series, or similar events related to planetary health that have students as an intended audience.	0
Events in which students learn directly from members of a local environmental justice community about the climate and environmental challenges they face, and how health professionals can partner with their community to address these exposures and impacts.	0
Cultural arts events, installations or performances related to planetary health that have students as an intended audience.	0
Local volunteer opportunities related to building community resilience to anthropogenic environmental impacts.	1
Wilderness or outdoors programs (e.g., that organise hiking, backpacking, kayaking, or other outings for students)	1
Volunteer opportunities include: Garden volunteering at Derriford hospital where there is a large garden at the Hospital Hotel. Everyone is welcome to volunteer. The garden is highly valued by guests which provide some peace during difficult times. The Polzeath Marine Conservation Group is a group of local volunteers that aims to protect and conserve the marine environments as wells raise awareness and understanding of the marine environment. This group was established in 2012 and is advertised by the institution. It also provides educational events for schools and the public. Some activities include beach cleans, rockpool rambles and beachcombing. Outdoor events occur regularly.	

The university advertises the Coast Path Connector which is linked to the South West Coast Path. The project focuses on training volunteers to act as walk leaders and advocates for the Coast Path in their local communities. It aims to overcome access barriers and engage a wider range of people in walking and topics such as climate change and natural history.

Section Total (9 out of 15)	**60%**

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Campus Sustainability

Section Overview: This section evaluates the support and engagement in sustainability initiatives by the institution. The healthcare industry is a major contributor to greenhouse gas emissions as well as pollution that harms local, regional, and global ecosystems. While healthcare is, by nature, a resource-intensive endeavour, the healthcare sector is well poised to lead the world to a more sustainable future. This will involve scrutinising every aspect of how our systems operate, from where we source our energy, to how we build our infrastructure, to what companies we invest in. Our medical schools, clinics, and hospitals must set the standard for sustainable practices, and show other sectors what is possible when it comes to minimising environmental impact.

5.1. Does your institution have an Office of Sustainability?	
Yes, there is an Office of Sustainability with multiple full-time staff dedicated to campus sustainability. If the Office of Sustainability serves the entire campus, there is **at least one designated staff member** for sustainability at the hospital. (3 points)	
There is an Office of Sustainability with one or more full-time staff dedicated to campus sustainability, but **no specific staff member** in charge of hospital sustainability. (2 points)	
There are **no salaried sustainability staff,** but there is a sustainability task force or committee. (1 point)	
There are **no** staff members **or** task force responsible for overseeing campus sustainability. (0 points)	
Score Assigned:	2
Plymouth University has a team that is dedicated to campus sustainability. They work from the Sustainability Hub located in Kirkby Lodge in the city-centre campus and home of the Sustainable Earth Institute and Centre for Sustainable Futures. The hub offers spaces for meetings, group work, conferences and events as well as sustainability education. At Derriford Hospital there is a Sustainability Environment group which is responsible for multiple aspects of sustainability including; assessing the impact of health care activities and monitoring and promoting enhancement of the Hospital's natural surroundings. There is also a sustainability sub-committee which aims to implement a Green Plan to tackle issues surrounding sustainability and climate change. This is a branch of the Future Hospital Committee which is led by Stuart Windsor. Kirsty Wavish is also assigned as the Green Plan Programme Manager.	

5.2. How ambitious is your institution's plan to reduce its own carbon footprint?
The institution has a **written and approved plan** to achieve carbon neutrality by **2030** (5 points)
The institution has a **written and approved plan** to achieve carbon neutrality by **2040** (3 points)
The institution has a stated goal of carbon neutrality by **2040** but has **not created a plan** to reach that goal or the **plan is inadequate** (1 point)

The institution/medical school does **not** meet any of the requirements listed above (0 points)	
Score Assigned:	5

The Sustainability Hub: Low Carbon Devon project was supported by an investment from the European Regional Development Fund between 2018-2023 to achieve carbon savings through four activities including:

- LED lighting retrofit within 4 campus building which has reduced greenhouse emissions by 148.7 tonnes kg CO2 and decreased energy consumption by 459,625kWh/annum
- Sustainability Hub refurbishment that resulted in carbon savings
- Installation of Photovoltaic solar panels which has led to a 25,027kWh/annum energy production aiding in the University's Net Zero targets
- Low Carbon monitoring facility

These changes have also contributed the the University achieving carbon neutral PAS 2060 verification

A Net Zero Visions mural was designed in 2022. Its mission is to create a net-zero Devon. Those involved in the mural are currently working with communities to produce positive visions of locations across Devon as carbon net-zero in 2015. It was funded by the AHRC Net Zero Visions project and the ERDF Low Carbon Devon project at the University.

Sustainability Policies and Action Plans have been devised by the institution to meet sustainability goals covering a wide range of areas including: Biodiversity, Carbon Management, Carbon Offset, Sustainable construction and refurbishment, Energy and Water, Sustainable food plan, Plan for Plastics, Green Travel Plan and Waste Policy and Action Plan. Carbon neutrality for all Scope 1,2 and selected scope 3 will be achieved by the university in accordance with PAS 2060.

5.3. Do buildings/infrastructure used by the institution for teaching (not including the hospital) utilize renewable energy?	
Yes institution buildings are **100%** powered by renewable energy. (3 points)	
Institution buildings source **>80%** of energy needs from off-site and/or on-site renewable energy. (2 points)	
Institution buildings source **>20%** of energy needs from off-site and/or on-site renewable energy. (1 point)	
Institution buildings source **<20%** of energy needs from off-site and/or on-site renewable energy. (0 points)	
Score Assigned:	1

All buildings in the institution utilise 100% renewable electricity sources on site. They utilise solar shading, photovoltaic cells, heat pumps and monitoring to enable this. All buildings have been accredited an ISO 14001:2015.
The university uses rainwater harvesting to provide water to buildings however this is limited to Roland Levinsky Building, Nancy Astor Building, Marine Building and The House. Water supplies are not yet sourced from renewable energy sources though the university has reduced water consumption by 26% since 2005/06.

Since 2005/06 the university has reduced gas use by 24.4% by 2020-21. The energy and water policy describes a need to migrate away from gas and install other sources of heating and hot water such as heat pumps, utilise heat recovery and improve thermal efficiency to minimise the need for gas as an energy source.

5.4. Are sustainable building practices utilised for new and old buildings on the institution's campus, with design and construction of new buildings and remodelling of old buildings conforming to a published sustainability rating system or building code/guideline?

Yes, sustainable building practices are utilised for new buildings on the institution's campus and the **majority** of old buildings **have been retrofitted** to be more sustainable. (3 points)

Sustainable building practices are utilised for new buildings on the institution's campus, but most old buildings have **not been retrofitted.** (2 points)

Sustainable building practices are **inadequately or incompletely** implemented for new buildings. (1 point)

Sustainability is **not considered** in the construction of new buildings. (0 points)

Score Assigned:	3

All new construction and refurbishment projects follow in-house specification for new building design and SKA Gold for refurbishment projects. SKA rating is an environmental assessment, benchmark and standard developed for commercial use. SKA rating includes 104 good practice measures across 8 areas of sustainability. To gain a gold rating, construction must comply with at least 100 of these practices.

In progress is the refurbishment of the Fitzroy Building which will include sustainable features such as: 59 Solar Photovoltaic panels, energy efficient white LED lighting, flow rates for taps limited to 6L/min, low global warming potential insulation along with others.

Completed projects include InterCity Place which was partly funded by the Department for Business, Energy and Industrial Strategy to install air source heat pumps. This building was refurbished to SKA Gold standard and some features include: mechanical heat recovery, 60 solar Photovoltaic panels and thermal efficiency. Other projects meeting SKA Gold standard include the Sustainability Hub which has 80 square metres of green wall for over 90 plants per square meter. This is also home to the Sustainability Earth Institute and Low Carbon Devon projects.

Completed projects have also been designed to BREEAM Excellent standards. These include the Derriford Research Facility (opened 2018), Marine Station (opened 2014), The House, Wellbeing Centre, Marine Building and the Roland Levinsky Building. BREAAM is the world-leading sustainability assessment method for buildings and infrastructure.

The university is also externally accredited to ISO 14001:2015 for their Environmental Management System for activities at the main campus site including Cookworthy building, Derriford Research Facility and John Bull Building.

More information about sustainability features in each building can be found here.
More information about policies and sustainability reports can be found here.

5.5. Has the institution implemented strategies to encourage and provide environmentally-friendly transportation options for students and reduce the environmental impact of commuting?	
Yes, the institution has implemented strategies to encourage and provide **environmentally-friendly transportation options** such as safe active transport, public transport, or carpooling and these options are well-utilised by students. Alternatively, the campus location is not amenable to unsustainable forms of transportation by default. (2 points)	
The institution has implemented **some** strategies to provide environmentally-friendly transportation options, but the options are **unsatisfactorily** accessible or advertised. (1 point)	
The institution has **not** implemented strategies to encourage and provide environmentally-friendly transportation options. (0 points)	
Score Assigned:	2

The university provides free bus travel between the city centre and sites at Derriford including Derriford hospital and Plymouth Marjon University with bus logos on university student cards. These can be used between 7am and 7pm Monday to Friday. These buses can also be used for students attending community placements as well as their own free time.

A 2019 survey demonstrated 60% staff and 81% non-halls students travel to university by bike, foot or public transport. In 2021-2022 59% staff and 89% students travelled to campus using these transport modes. Total kgCO2e for business travel in 2022-23 was 1501, a 198% decrease from pre-covid levels.

The university encourages car sharing when students are required to travel to places outside of the bus routes. They provide a bursary to support travel costs and suggest car sharing reduces these costs which can incentivise students to car share. As well as this the university has installed 12 EV chargers on site for staff, students and visitors.

The main campus makes pedestrians priority and uses AccessAble to enable public access as well as having minimal parking and limited vehicle access to allow better pedestrian environments. The university also encourages cycling with over 580 bicycle parking spaces across sites and showers available for active commuters. They also offer the cycle to work scheme for access to new bikes and equipment. The university encourages staff to cycle with the staff Bicycle User Group as well as offering a mileage rate to compensate staff who travel by bicycle. As part of Connect Plymouth, the university is working towards having hirable e-bikes on Plymouth sites as part of wider city initiative. More information on Green Travel can be found here.

The university provides Zoom and Microsoft Teams to all staff to enable virtual meetings, conference calls, and teaching which is encouraged as well as SharePoint and Onedrive to allow more flexible working. This reduces the need to travel.

Other transport services include the coach station which is a 3 minute walk from the university main campus. This is operated by National Express and runs regular services for longer travels. Additionally Plymouth's main railway station is approximately 400m from the main campus- just a short walk. More information on strategies and details can be found here.

5.6. Does your institution have an organics recycling program (compost) and a conventional recycling program (aluminium/paper/plastic/glass)?	
Yes, the institution has **both** compost **and** recycling programs accessible to students and faculty. (2 points)	
The institution has **either** recycling **or** compost programs accessible to students and faculty, but not both. (1 point)	
There is **no** compost or recycling program at the medical school. (0 points)	
Score Assigned:	1
There are bins across campus for staff, students and visitors to recycle waste. The university has a mixed recycling collection scheme so all recyclable materials (except glass) can be mixed in recycling bins across the main campus. There is a team of staff on campus who manage waste at the University Recycling Centre. They take apart old furniture e.g. chairs and desks, and separate wood, plastic and metal to maximise recycling. Food waste: In 2012, food composting was introduced from catering outlets and between 2022-2023, 9 tonnes of food waste was collected and taken to anaerobic digesters in Devon. The university also utilises the Too Good To Go app to reduce food waste as well as collecting cooking oils to be turned into biofuel. The University also uses the Too Good To Go app to reduce food waste. However, there are no composting bins available to staff/students on campus. Aims: The university aims to reduce the amount of waste generated to 20kg per student or less by 2027. It aims to increase recycling and reuse so that non-recyclable waste per student is 6kg or less by 2027. More information about waste and recycling can be found here.	

5.7. Does the institution apply sustainability criteria when making decisions about the campus food and beverage selections (e.g. local sourcing, reduced meat, decreased plastic packaging)?
Yes, the institution has a**dequate s**ustainability requirements for food and beverages, including meat-free days or no red-meat, and **is engaged** in efforts to increase food and beverage sustainability. (3 points)
There are sustainability guidelines for food and beverages, but they are **insufficient or optional**. The institution **is engaged** in efforts to increase food and beverage sustainability. (2 points)
There are sustainability guidelines for food and beverages, but they are **insufficient or optional.** The institution is **not** engaged in efforts to increase food and beverage sustainability. (1 point)
There are **no** sustainability guidelines for food and beverages. (0 points)

Score Assigned:	3

In 2024, the university received a three-star rating – the highest result from The Sustainable Restaurant Association and a Michelin star in terms of recognising sustainability. . The university was also listed 19th of 442 institutions for food sustainability in the Times Higher Education Impact Rankings in 2021 as well as receiving a rating of 100% in the sustainable food category on the People and Planet University League in 2021.

Currently 75% of suppliers are based in the South West of England.
The Reservoir Cafe is a Vegetarian Society accredited outlet and over 50% dishes are vegetarian or vegan. All cafes associated with the university provide vegetarian and vegan options.
All meat is grass-fed and British. Beef, pork and chicken is sourced from an Exeter family butcher and Red Tractor certified.
Since 2015 a local fish supplier has been used and is MSC certified or from boats that are part of the Responsible Fishing Scheme.
The institution stocks fairtrade and organic coffee beans throughout cafes. Fresh milk is from Trewithen Dairy in Cornwall. There are six milk pergals across the campus cafes which minimises plastics; one milk pergal saves seven single-use plastic bottles, allowing the university to save over 1,870 two-litre bottles so far. There are also dairy free alternatives.
Leftover food is used for soups and stocks, while unusable food is collected and taken to the anaerobic digester at Language Farm. Additionally, any consumable food waste left is donated to Trevi House, a local women's and children's refuge.

There has been a reduction of 251,783 disposable cups since implementing a 20p discount (as of the end of June 2024). This figure doesn't include those customers who choose to drink in our cafes on campus, which are served in China cups. The university also sells One Plymouth reusable cups, where a donation also goes to the Ocean Conservation Trust.

The university has added the carbon impact of dishes to the menu to allow better food choices.

More information can be found here.

5.8. Does the institution apply sustainability criteria when making decisions about supply procurement?
Yes, the institution has **adequate** sustainability requirements for supply procurement **and** is **engaged** in efforts to increase sustainability of procurement. (3 points)
There are sustainability guidelines for supply procurement, but they are **insufficient or optional.** The institution is **engaged** in efforts to increase sustainability of procurement. (2 points)
There are sustainability guidelines for supply procurement, but they are **insufficient or optional.** The institution is **not engaged** in efforts to increase sustainability of procurement. (1 point)
There are **no** sustainability guidelines for supply procurement. (0 points)

Score Assigned:	3

The University recognises sustainability as an embedded principle across everything the day. The procurement team extends this to include social, ethical, economic and environmental factors

which is collectively referred to as Responsible Procurement. They ensure procurement decisions contribute positively to the University's Sustainability Policies and Action Plans. This supports the University in delivering commitments to the Civic University and Social Value agenda as well as sustainability commitments which support the United Nations Sustainable Development Goals. The procurement and sustainability teams are working to ensure they meet all the criteria of ISO 20400 standards for Sustainable Procurement. More information can be found here.

5.9. Are there sustainability requirements or guidelines for events hosted at the institution?

Every event hosted at the institution **must** abide by sustainability criteria. (2 points)

The institution **strongly recommends or incentivizes** sustainability measures, but they are **not required.** (1 point)

There are **no** sustainability guidelines for institution events. (0 points)

Score Assigned:	1

Events hosted by the medical school are required to follow the University of Plymouth's policies and guidance:

- Working alongside the university's current policies and guidelines, particularly in regard to Green Travel, Catering Services, Waste Recycling and Finance and Procurement.
- Where possible we eliminate paper programmes and handbooks by putting event materials online
- We recycle and reuse name badges and any other event materials that we can
- We've developed online and hybrid event models to reduce travel, waste and recycling
- Any external event contractors are also procured through a robust tendering process so that they too meet environmental impact and sustainability measures
- The University's Carbon Management Plan also details some further guidance:
- This includes goals to achieve 0 net carbon output for event based resources such as grid electricity, refrigerant gases and solid, liquid and gaseous fuels. Campus protocol, including for the hosting of events, considers and is taking steps to improve the sustainability of water usage and sewage, recycling and waste management, procurement (as detailed above), energy intake and carbon emissions.

There are also steps being taken to implement a sustainable investment platform, of which the involvement of medical and healthcare students may encourage the Medical School to formalise specific sustainable event protocols.

Source: University of Plymouth Events Team

5.10. Does your institution have programs and initiatives to assist with making lab spaces more environmentally sustainable?

Yes, the institution has **programs** and **initiatives** to assist with making lab spaces more environmentally sustainable. (2 points)

There are **guidelines** on how to make lab spaces more environmentally sustainable, but not programs or initiatives. (1 point)	
There are **no** efforts at the institution to make lab spaces more sustainable. (0 points)	
Score Assigned:	2
The University of Plymouth has a Technician Hub which includes sustainability goals. A Laboratory Efficiency Assessment Framework was introduced to assist lab technicians in making more sustainable actions. Guidance includes tools to reduce plastic waste, recycle, waste disposal, conserve water and energy and other resources. The Hub includes Unigreen Case Studies to demonstrate benefits of its use in labs.	

5.11. Does your institution's endowment portfolio investments include fossil-fuel companies?	
The institution is **entirely divested** from fossil fuels **and** has made a **commitment to reinvest divested funds** into renewable energy companies or renewable energy campus initiatives. (4 points)	
The institution is **entirely divested** from fossil fuels. (3 points)	
The institution has **partially divested** from fossil fuel companies **or** has made a **commitment to fully divest**, but **currently** still has fossil fuel investments. (2 points)	
The institution has **not divested** from fossil-fuel companies, but faculty and/or students are **conducting organised advocacy** for divestment. (1 point)	
Yes, the institution has investments with fossil-fuel companies and there have been **no efforts** to change that. (0 points)	
Score Assigned:	2
The University aims to improve efficiency of all university buildings and facilities and move away from fossil fuels where possible. So far they have reduced tCO2 emissions from gas and electricity by 81% since 1990 to 2022-23 and there have been reductions in electricity and gas use. More information about performance can be found here. The University has a Responsible Procurement Policy and Action Plan which describes actions to be taken in order to utilise more sustainable energy sources.	

Section Total (25 out of 32)	**78%**

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Grading

Section Overview
This section focuses on the grading of the report card. The institution received a grade for each of the individual sections as well as an overall institutional grade. Section point totals were tallied, divided by the total points available for the section, and converted to a percentage. The overall institutional grade is a weighted average of the section grades, with curriculum receiving a higher weight owing to its larger number of metrics. Letter grades for each section and the institution overall were then assigned according to the table below.

Letter Grade*	Percentage
A	80% - 100%
B	60% - 79%
C	40% - 59%
D	20% - 39%
F	0% - 19%

Planetary Health Grades for Peninsula School of Medicine
The following table presents the individual section grades and overall institutional grade for the Peninsula School of Medicine on this medical-school-specific Planetary Health Report Card.

Section	Raw Score %	Letter Grade
Planetary Health Curriculum (30%)	(48/72) x 100 = 66.67%	B
Interdisciplinary Research (17.5%)	(13/17) x 100 = 76.47%	B+
Community Outreach and Advocacy (17.5%)	(7/14) x 100 = 50.00%	B+
Support for Student-led Planetary Health Initiatives (17.5%)	(9/15) x 100= 60.00%	B-
Campus Sustainability (17.5%)	(25/32) x 100 = 78.13%	B+
Institutional Grade	**(Ax0.3 + Bx0.175 + Cx0.175 + Dx0.175 + Ex0.175) = 66.30%**	**B**